

09347635-050301

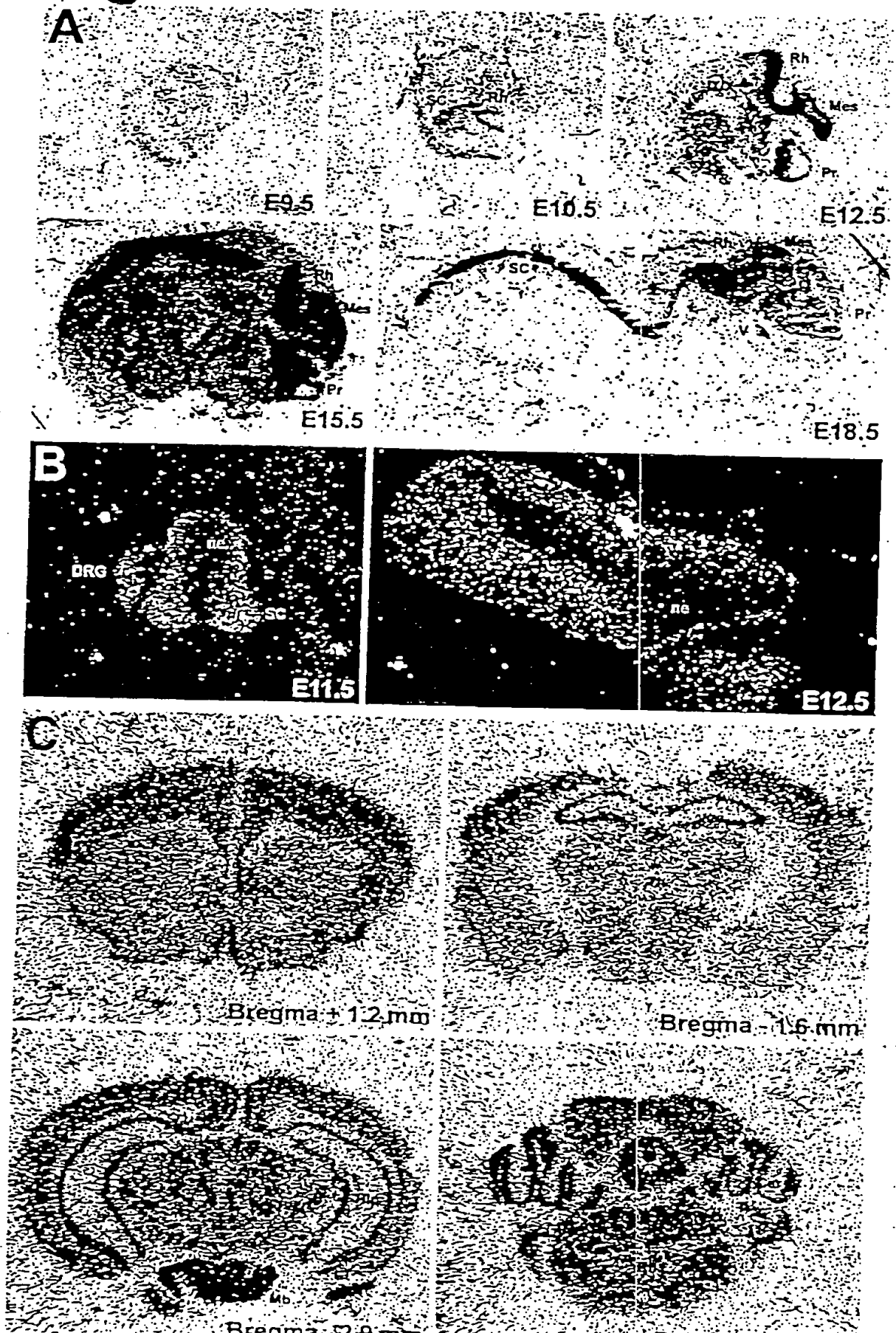
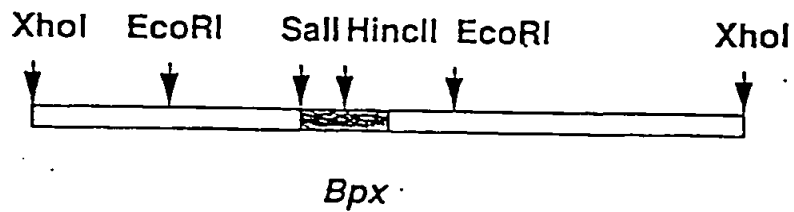


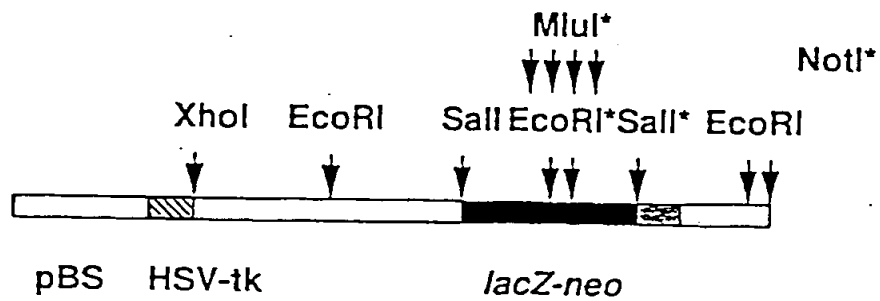
FIGURE 1

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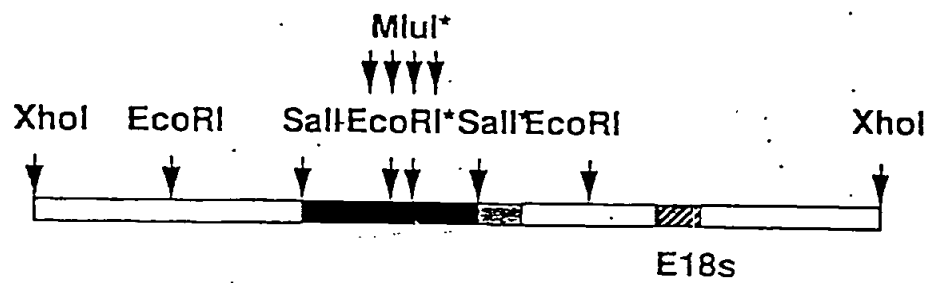
a



b



c



* introduced sites

FIGURE 2

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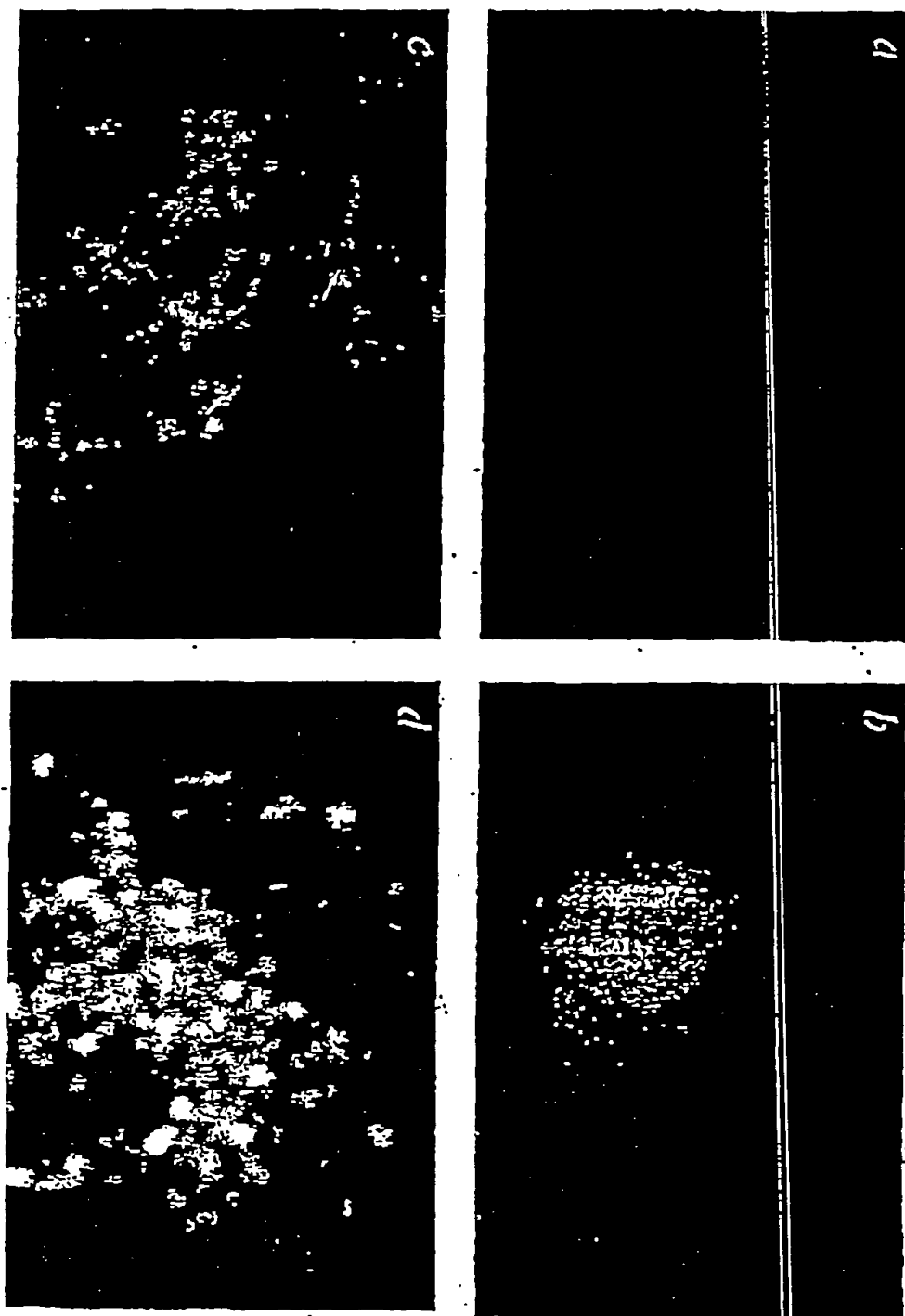


FIGURE 3

TOE050" 5992+860

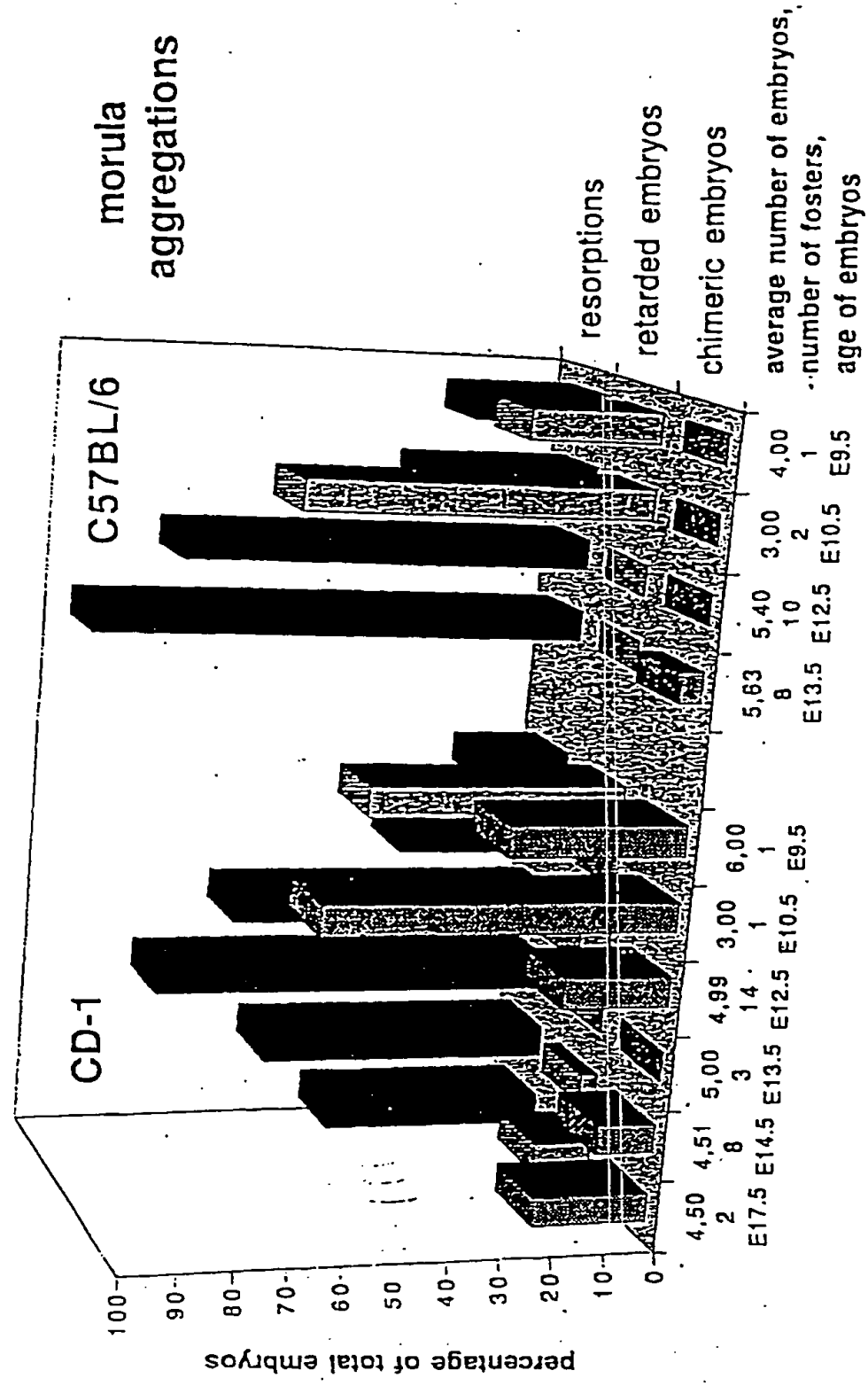


FIGURE 2

E17.5



E14.5



E12.5

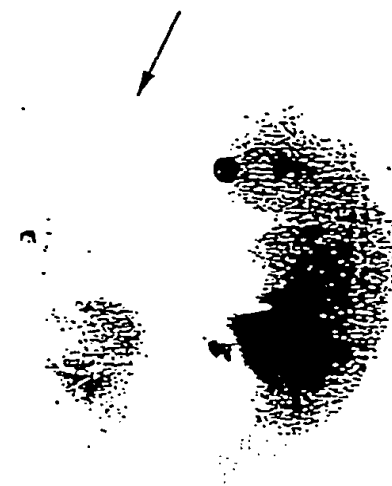
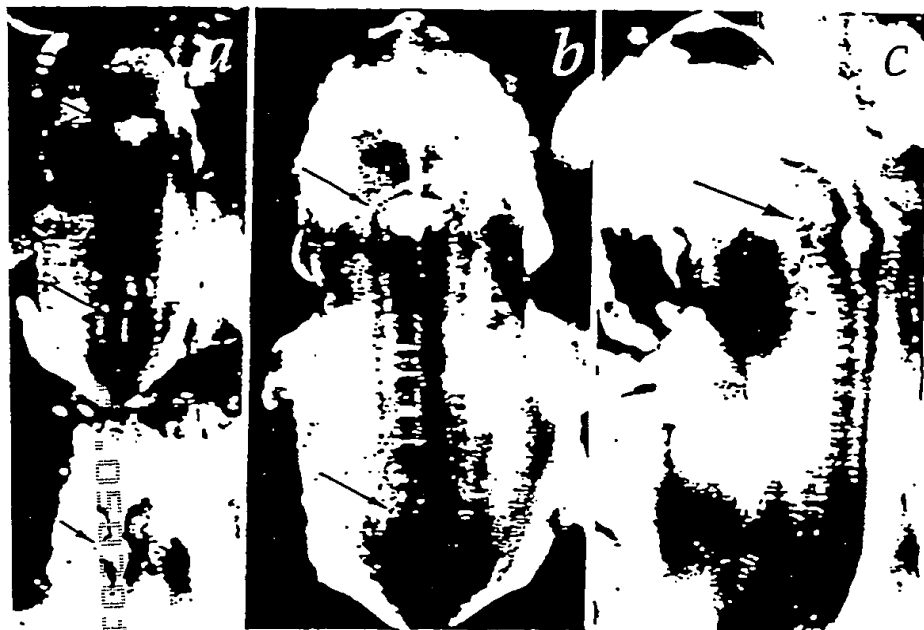
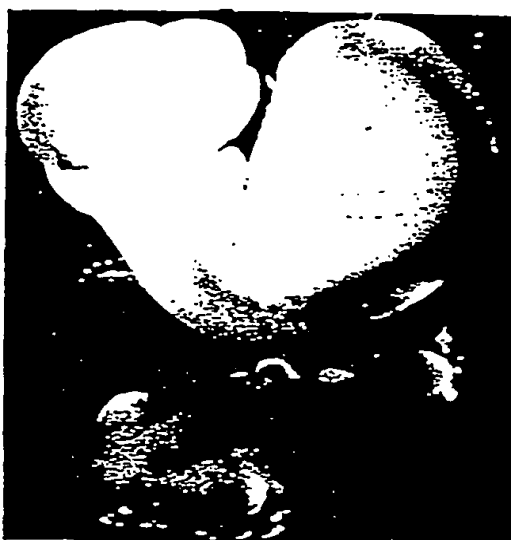


FIGURE 5

E10.5



E9.5



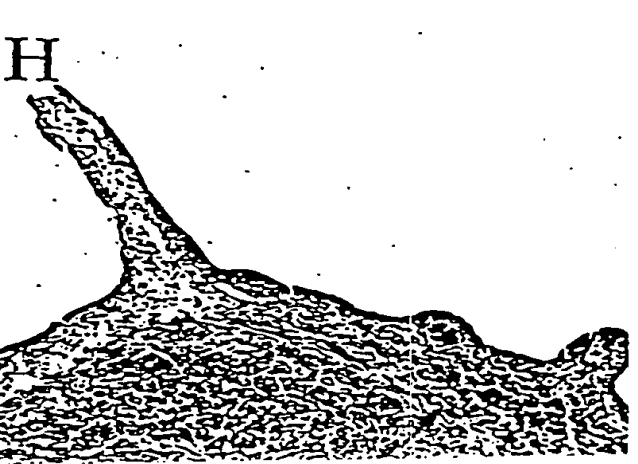
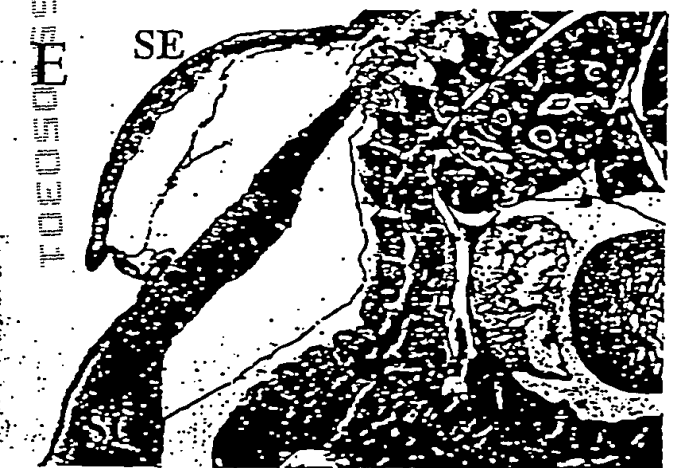
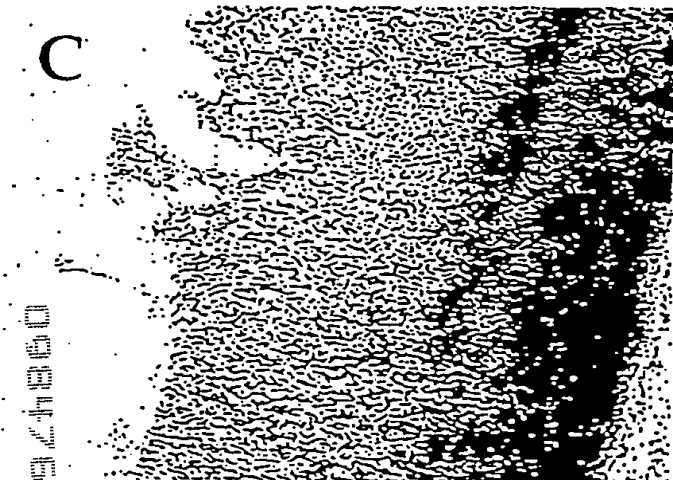
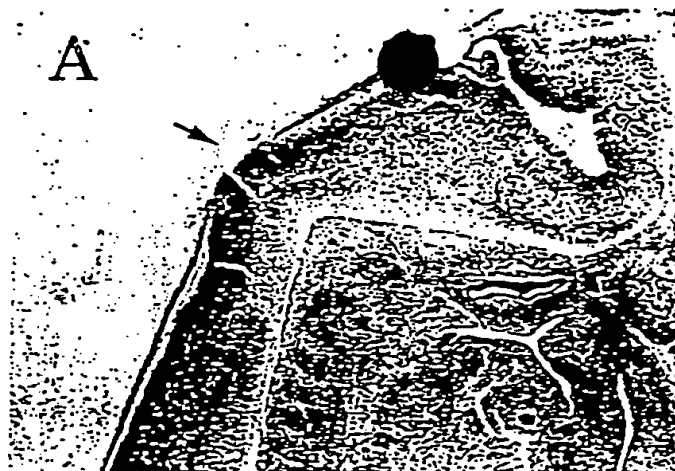


FIGURE 6

FIG. 7

Sequence clone *Bpx* promoter murin *SpeI-SalI* fragment

ACTAGTCATATAGCTGGCTCTTTTACAAAAGGCTTCAACACCCCTCCCCC
CACACTTTAGTCATCCGTCATCTCTTCCTCATCAGGAAATATTATGAGAA
TTTTCCCATTTAAAATCACACAGGTTGTGAAAATTACAGAAACCAGGGTA
CAGAATATTTAAACCACTGTCAGTTACATCATCCAAAGGCCACCTATGCT
TATTTTTGGTAATTTTAAACCTCAAAGGATCTCTTTGTGGGCTCCTCCACT
ACCCTCCTCTCTTTCCCAGAGCCTCAGGTTATAACCAAAGGGATAGACTA
AAGACAATCCAGTACCTTGCCCATTTTTTTTCATTCCCTGTCACTGTTTCCA
TATAGCTCTTTTGAAATTATGAACATATAGTATCAGTTGAAAACGGAATG
AATGATACTGCATTTCTGCAAAATTCCACAGGCTATAGGGTGGAAGATG
AGCCATAGGTGGAGGAATCAGCCATATTAGAGAATCTGGGAAGGCAAG
AGGTGTTGAAATTTTGATTCATCTACTAATTTACTGGCTCAGGATTTGTC
AATCACTGCAGCCTGGCAAATGAGATTAGAGAAGAGTCCTGGGAGGGA
AGGGGTGACGCAGCAACCTGCATACACTTAAAAAAAAGAGCTGAGAG
ACAACTGCGTAATCATACTGCGGCACCAGTTCCTCCATCCCTCCGCCCCC
GAGTGGCTGGAGCAGCTGCTTGCGGAGGTCTGCCCCTGCGGCTCTCTG
CAGTCTCTAGCCTGTTCCCTTCAGGGCCTAGAGTCTCCGCCCAGACAGCCG
GTTTCAATTCTGCTATCCCAGCTTCAGCACCGTCTTTTATACTGCTTGCTG
CCTGCCATCAGTGCAGCCGCCGCCGCTCTTGTTTCATCTCTGCCAGATC
ATCGCGCATCTGCTGTATTGGTGAGTCTTCCTGCGGAGGTGAGGTCTCCT
GATCTGCGGGCTTAGCCACCATAAGTGCAGGCGATCGTTTGAAAACAAT
GGCTGAATCAGTCGACCTCGAGGGGGGGCGTACCTTGCCCATTTTTTTCA
TTCCTTGTCACCTGTTTCCATATAGCTCTTTTGAAATTATGAACATATAGTA
TCAGTTGAAAACGGAATGAATGATACTGCATTTCTGCAAAATTCCACAG
GCTATAGGGTGGAAGATGAGCCATAGGTGGAGGAATCAGCCATATTAGA
GAATCTGGGAAGGCAAGAGGTGTTGAAATTTTGATTCATCTACTAATTTA
CTGGCTCAGGATTTGTCAATCACTGCAGCCTGGCAAATGAGATTAGAGA
AGAGTCCTGGGAGGGAAGGGGTGACGCAGCAACCTGCATACACTTAAA
AAAAAAGAGCTGAGAGACAACCTGCGTAATCATACTGCGGCACCAGTTCC
TCCATCCCTCCGCCCCCGAGTGGCTGGAGCAGCTGCTTGCGGAGGTCTG
CCCCTGCGGCTCTCTGCAGTCTCTAGCCTGTTCCCTTCAGGGCCTAGAGT
CTCCGCCCAGACAGCCGTTTCAATTCTGCTATCCCAGCTTCAGCACCGT
CTTTTATCCCCACTGCTTGCTGCCTGCCATCAGTGCAGCCGCCGCCGCT
CTTGTTTCATCTCTGCCAGATCATCGCGCATCTGCTGTATTGGTGAGTCT
TCCTGCGGAGGTGAGGTCTCCTGATCTGCGGGCTTAGCCACCATAAGTG
CAGGCGATCGTTTGAAAACAATGGCTGAATCAGTCGAC

[SEQ ID NO:1]

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FIG. 8

Sequence Bpx murin cDNA identical to genomic DNA

GTACCTTGCCCATTTTTTTTCATTCCCTTGTCAGTGTTCATATAGCTCTTTT
GAAATTATGAACATATAGTATCAGTTGAAAACGGAATGAATGATACTGC
ATTTCTGCAAAATTCCACAGGCTATAGGGTGAAGATGAGCCATAGGTG
GAGGAATCAGCCATATTAGAGAATCTGGGAAGGCAAGAGGTGTTGAAAT
TTTGATTCACTACTAATTTACTGGCTCAGGATTTGTCAATCACTGCAGC
CTGGCAAATGAGATTAGAGAAGAGTCCTGGGAGGGAAGGGGTGACGCA
GCAACCTGCATACACTTAAAAAAAAAAGAGCTGAGAGACAACTGCGTAAT
CATACTGCGGCACCAGTTCCTCCATCCCTCCGCCCCCGAGTGGCTGGAG
CAGCTGCTTGCGGAGGTCTGCCCAGTCTGCGGCTCTCTGCAGTCTCTAGCCT
GTTCCCTTCAGGGCCTAGAGTCTCCGCCCAGACAGCCGGTTTCAATTCTGC
TATCCCAGCTTCAGCACCGTCTTTTATCCCCACTGCTTGCTGCCTGCCATC
AGTGCAGCCGCGCGCCCTCTTGTTTCATCTCTGCCAGATCATCGCGCAT
CTGCTGTATTGGTGAGTCTTCCTGCGGAGGTGAGGTCTCCTGATCTGCGG
GCTTAGCCACCATAAGTGCAGGCGATCGTTTGAAAACAATGGCTGAATC
AGTCGACCATAAAGAACTGTCTGAATCCAACCAAGAAGAGCTTGGCAGC
CAGGTAATGGCGGAGGGGCGCGGGGAAAGTCAGGACCGCAGTGAAGGT
GTCTCCATTGAGCCTGGAGATGGCGGGCAACATGGTGAAGAAACCGTGG
CTGCTGGAGTAGGGGAAGAGGGGAAAAGGTGAAGAAGCTGCTGCAGGGT
CTGGGGAAGATGCTGGGAAGTGCAGGAGGCACTGATGAGGACTCAGACT
CAGACCGTCCAAAAGGACTTATCGGTTATCTTTTAGATACCGATTTCTGT
GAAAGTCTCCAGTGAAAGTTAAGTGCCGAGTGCTAGCTCTTAAAAAGC
TTCAAACAAGAGCTGCCCATTTGGAATCCAATTCCTGAGGGAATTTTAT
GACATTGAAAGGAAGTTTGCTGAAATGTACCAACCCCTTACTAGAAAAAA
GACGACAGATCATCAATGCAGTCTATGAGCCACAGAAGAGGAATGTGA
GTATAAATCGGACTGTGAGGACTATTTTGAGGAGGAGATGGATGAGGAG
GAAGAGACTAACGGCAACGAAGACGGTATGGTGCATGAATACGTGGAT
GAAGATGATGGTTATGAGGACTGTTATTATGATTATGATGACGAGGAAG
AAGAGGAGGAGGAAGATGACAGCGCTGGGGCCACCGGAGGAGAAGAG
GTTAACGAAGAGGATCCTAAGGGGATTCCGGATTTTTTGGTTGACTGTTTT
AAAAAATGTTGAAGCACTCACTCCTATGATTAAGAAATATGATGAGCCT
ATTCTGAAGCTGCTGACAGATATTAAAGTGAAGCTTTCGGATCCCGGGG
AGCCTCTCAGCTTCACACTCGAATTTCACTTCAAGCCCAATGAATATTTT
AAAAATGAGCTGTTGACAAAGACTTATGTGCTGAAGTCAAAGCTTGCAT
GCTACGATCCCCACCCTTATAGGGGAACTGCCATTGAGTACGCCACTGG
CTGCGACATAGATTGGAACGAAGGGAAGAATGTCACTTTGAGAACCATC
AAGAAGAAGCAGAGACATCGCGTCTGGGGAAGTGTCCGAAGTGTGACTG
AAGATTTTCCCAAGGACTCTTTCTTCAATTTCTTCTCTCCTCATGGGATCA
GCTTAAATGGAGGGGATGAAAATGATGATTTTTTACTTGGTCATAATCTG

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FIG. 8 cont.

CGTACTTACATAATTCCAAGATCAGTGTTATTTTTCTCAGGAGATGCACT
TGAATCTCAGCAGGAGGGTGTAGTTAGGGAAGTTAATGACGAAATATAT
GACAAAATTATTTATGATGATTGGATGGCTGCAATTGAAGAGGTTAAAG
CCTGTTGCAAAAATCTTGAGGCATTAGTAGAAGATATTGATCGTTAAAAC
AGAGTAGATGCTTTTGAAACTAACTGCTCTACATGCAGTTACTGAAGACA
TAAGCAGTTAATATTGTCTTGTGTTCTGCATTTTTCTGTCATGCCAGTT
TAAAAATTCAAATACTAATTAATCTGACCTTGCATTGTAGTGGTATGATG
TTTTCAAGACATGTAGACTGTGATAAATGATTAAGACATTAATAGTCTGT
AGTATAACCCTTCTGAAGTCCTTGTGCCATGTATCTATTAATCTGTGGCT
GTGAATATTATTAGAAGTGCTAAATGAGATTATTTGTTTGCAAAGAAAAT
ATTGGAAACCTACCTAAGAGTGCTTTGCTATTTTCCCCCTTATCCTCTTAG
TGCTTTGGCCAATTGACTTTATTGTGCCTGCTTCATTTTGCAGTAAATATG
CAGTAGAATTTAAAACCTGAATGCCTAAGAGGCCTGCATATGATTGAGA
ATTTCAGGCAAAATCATATTTATTATTGATAACAGCTAGTGCAAGGCTTC
TGATTGTATGTGACTGTGATAAATAATAAACTCAATTGTATTGAAGTTA
CTGTTTATCATTGACATGTGAGTTACAGTATTTTCAAATGTTGCAAATATT
GTCCTGTGTAATTGTGTAACTGTGATTACAGTGTACATTTTTTTCATAAT
ATACTGAATCATTCAATTGAAATGGACACTTTACCATTTCTGAAAATACAT
TTCATATTCTGTTCACTGAAAAATAAAATGAATAAAAATTT

[SEQ ID NO:2]

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03069-03070

TGTTAGAGAGAGCCTGGGAAGGTGAGcAGAGcTGAAAACCTTGATAGATCTA
 ATAATTTACTGGCTCTGGGTTTGTTCAGTCACTACATTGCAGCAAATGAGA
 TTAGAGCATAGTTGTGGGAGGGAAGGAGGTGACGCAGCAATCTATTTGC
 ACCTAGAAATTTTAGGCAAGTGATAGCTGCGTAATCATACTGCGGCACC
 GTTTTTTTCTTGACGACGTAGCTGCTTGCGGAGGAGGTCTGCCCACTGCA
 GCTCTCTGCAGTCTCCGGCTCTCTCCTGCAGGATCGGTCAACGCAGCCGT
 CGCCGCCCTCTGCACCCAGCCCAGGTGCGCACTGCTTCAGTCCGGTTCTC
 AAAGCCTCAGCACCATCTTTTATCCCCGAGCAGCCTGGATCGTCGTTCCC
 TCAGTCCGGACGCCACTGCTAGGTCCGACCACCGCCGCTTCTGATATTTC
 GGTGAGTCTTTTCTGTGGAGGTTTGGTCTCCCGATCTCTGTGGTAGCCA
 CCTTAGGCGTGTACGGTCCTTTGAAAAATGGCCGAGTCAGAGAACC GCA
 AGGAGCTGTCAGAATCCAGTCAAGAAGAGGCTGGTAATCAGATAATGGT
 GGAAGGGCTCGGGGAACATCTGGAGCGCGGTGAAGATGCCGCTGCTGG
 GCTTGGAGACGATGGGAAGTGCGGTGAAGAAGCTGCCGCTGGGCTTGG
 GGAAGAAGGGGAAAACGGTGAAGATACTGCTGCTGGGTCCGGGGGAAGA
 TGGGAAAAAAGGTGGCGATACTGATGAGGACTCAGAGGCAGACCGTCC
 AAAAGGACTTATC
 GGTTATGTTTTAGATACAGACTTTGTTGAAAGTCTACCTGTGAAAGTTAA
 GTACCGTGTGTTAGCCCTTAAAAAGCTTCAAACCTAGAGCGGCCAATTTA
 GAATCCAAATTCTGAGGGAATTTTCATGACATTGAAAGAAAGTTTGCTG
 AAATGTACCAACCCTTACTGGAAAAAAGACGTCAGATCATCAATGCAAT
 CTATGAACCTACAGAAGAGGAATGTGAATATAAATCAGACTCTGAGGAC
 TGTGATGATGAGGAAATGTGTCATGAAGAGATGTATGGTAATGAGGAGG
 GTATGGTACATGAATATGTGGATGAGGACGATGGTTATGAGGACTATTA
 TTATGATTATGCTGTGGAAGAGGAGGAGGAGGAGGAGGAGGAGGACGA
 CATTGAGGCTACTGGAGAAGAGAATAAAGAAGAGGAGGATCCTAAGGG
 AATTCCTGATTTTTGGCTAACTGTTTTAAAAAACGTTGATACACTCACTC
 CTTTGATTAAAGAAATATGATGAGCCTATTCTGAAGCTCCTGACAGATATT
 AAAGTTAAGCTTTTCAGATCC

FIG. 9 cont.

TGGCGAGCCCCTCAGTTTCACACTAGAAATTTCACTTCAAACCCAATGAAT
ATTTCAAAAATG_aGTTGTTGACAAAGACCTATGTGCTGAAGTCAAAGCTA
GCATATTATGATCCCCATCCCTATAGGGGAACTGCGATTGAGTATTCAC
AGGCTGTGAGATAGATTGGAATGAAGGAAAGAATGTCACCTTTGAAAACC
ATCAAGAAGAAACAGAAACATCGGATCTGGGGAACAATCCGAACGTGAA
CTGAAGATTTTCCCAAGGATTCATTTTTCAATTTTTTCTCTCCTCATGGAA
TCACCTCAAATGGAAGGGATGGAAATGATGATTTTTTACTTGGTCACAAT
TTACGTACTTACATAATTCCAAGATCAGTATTATTTTTCTCAGGTGATGCA
CTGGAATCTCAGCAGGAGGGGGTAGTTAGAGAAGTTAATGATGCAATTT
ATGACAAAATTATTTATGATAATTGGATGGCTGCAATTGAGGAAGTTAAA
GCTTGTGCAAAAACCTTGAGGCATTAGTAGAAGACATTGATCGTTAGA
GCAGAGTATACATGGCCCTGAAATTAAGT_gCCCTAGATATAGTTACTCAA
GGTATAAGAA_gCCTTGTGTTCTGTATTT_gCCTTGTAGTGTAGTTAAAC
ATATGTTTCAAAAATATAAGAAAAGTTCAAAAACATAATTTGACCTT
GAGTTTTAGTAGTAGAATGTTTTCAAGAAATGTACACTGTGGTAAATGAT
TAAACACTAGTATAGTGTTGTGTAGCTTAATCCTTCTGAAGTCTTTTTG
TCATGTAGCTATTAATCTGTGGCTATGAAATGATCAGAAATGCTAAGTGA
GATCAATATTTGTTTGGAAAAAAATCTTGGGAAACAACCCAAGGGTTTT
CGCTGTTGTTGTTTTCTTTTTCTATTTTGTGTTACTTAGTCCTTTAGCTAG
TGGATTTAATTTTGTGTCCTGCTTCATTTTGCAATAACAATGCAGTAG
AATTTAAACTTGGATGCTTAAGAGGCCTGCATATAGATAAGAATTTGAG
GCAAACTACATTTATTGTTAATAACAGCTTGTTTCATAGGCTCTTGATTT
TATGTAAGTGTGATAAATAATGAAAACCTAGTTATATTGAGGTTATTGTT
TGTCGGTGAAGTGTTAGTCACAGTATTTTCAAAGTTTGCACATATTGTT
CTGTGTAATTGTGTAAGCCATAATTACAGTGTTTAATTCTTTTTCTATT
ACATCATTCAATTGAAAGTGATCACTTTACCATTTTGAAAAGATATTTTCGT
GTTCTTTCACTGCAAAATAAAAAGAATAAAAATTTGAGAGTGTCTCATGG
AATTCC

[SEQ ID NO:3]

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FIG. 10

human *BPX* 5' region

ACTTAAAGGAAAAATTTATCTATAAACTGACAGAATTTAGAAATAAATA
CAACAATATGTAAACAGTTTTAATATCTGTGATAGTAACAAATTCCTTAA
ATCTGGAAAATAATAGTCACTTAAAATTTTAAAAAATTGTTCAATTAATA
AATGATCCAAGTTAGAAATATGAACAAAATAAACCTCACCAATAATTAC
TATAGAGAGGAAATTTTAATTACTGCAAAGCTTTCATCCTATAAATACA
TTATCAAATAGTTTAACCATTTCTTTAATGCTGAGATTTAGATTATTTCCA
ATTAACCTCAAAGCATCAAGCAAATGTTATGATTTCTAAGAATAAACATA
ACTTTCCATTTTGGCTTTTGTATATATGTATATTTCTAACGGCTGTAAAG
CCAGCATTAAGAAGGAGAAGCAGAAAGTCAGTATTGGGACTGGGGTTAT
TTATAAGCCAGGCAACTGGTTAATTGTGGTTAATTGTCTGGTATGTTTAC
TAGTCACGTAGTTGTATACACCATACTAGTTTTTTCATCACAGGCCCTCAT
TCGCCCCCACTGCCATCGGACTTCCTCCTCCTCCCCTCACAGGAAATGTT
TCGAGAATTTTCAACCTAAAATCATATAGCTTGTGAAAAATACCGACAA
ACATAATATAGAATATTTAAATAACTGACACGCCACCTAAAGACCATCA
GTGCTAATTCCTGGTGTTTTTAATCTTTGAAGCGTTTGTATTATCAGCTCTT
CCACCATCCACCTCTCCCCTCCCCAGGTCCCCGATCTAAAATCAAAGAG
ATTGATTTAGGATGGGTGGGTGCCTTGTCTTCTCTCATTGTTTCGACATTTT
AGTTACGTTTTCTCTGAGCTCTCTGGAAAGCATAAAAGTATAATATCTGT
TAAAAGTTGGATGAATGAACATAATGAACGCAATGGGATTCCAGAAAAT
CTGCGGGAGATGGGCTAGAGGACGAGGAGGAGGTGGATGAATCAGCCA
TGTTAGAGAGCCTGGGAAGGTGAGCAGAGTTGAAAACCTTGATAG
ATCTAATAATTTACTGGCTCTGGGTTTGTCTAGTCACTACATTGCAGCAAA
TGAGATTAGAGCATAGTTGTGGGAGGGAAGGAGGTGACGCAGCAATCTA
TTTGCACCTAGAAATTTTAGGCAAGTGATAGCTGCGTAATCATACTGCGG
CACCGTTTTTTTTCTTGCAGCAGTAGCTGCTTGCAGGAGGAGGTCTGCCCAC
TGCAGCTCTCTGCAGTCTCCGGCTCTCTCCTGCAGGATCGGTCAACGCAG
CCGTCGCCGCCCTCTGCACCCAGCCAGGTGCCACTGCTTCAGTCCGGT
TCTCAAAGCCTCAGCACCATCTTTTATCCCCGAGCAGCCTGGATCGTCGT
TCCCTCAGTCCGGACGCCACTGCTAGGTCCGACCACCGCCGCTTCTGATA
TTTCGGTGAGTCTTTTCTGTGGAGGTTTGGTCTCCCGATCTCTGTGGTA
GCCACCTTAGGCGTGTACGGTCCTTTGAAAA

[SEQ ID NO:4]

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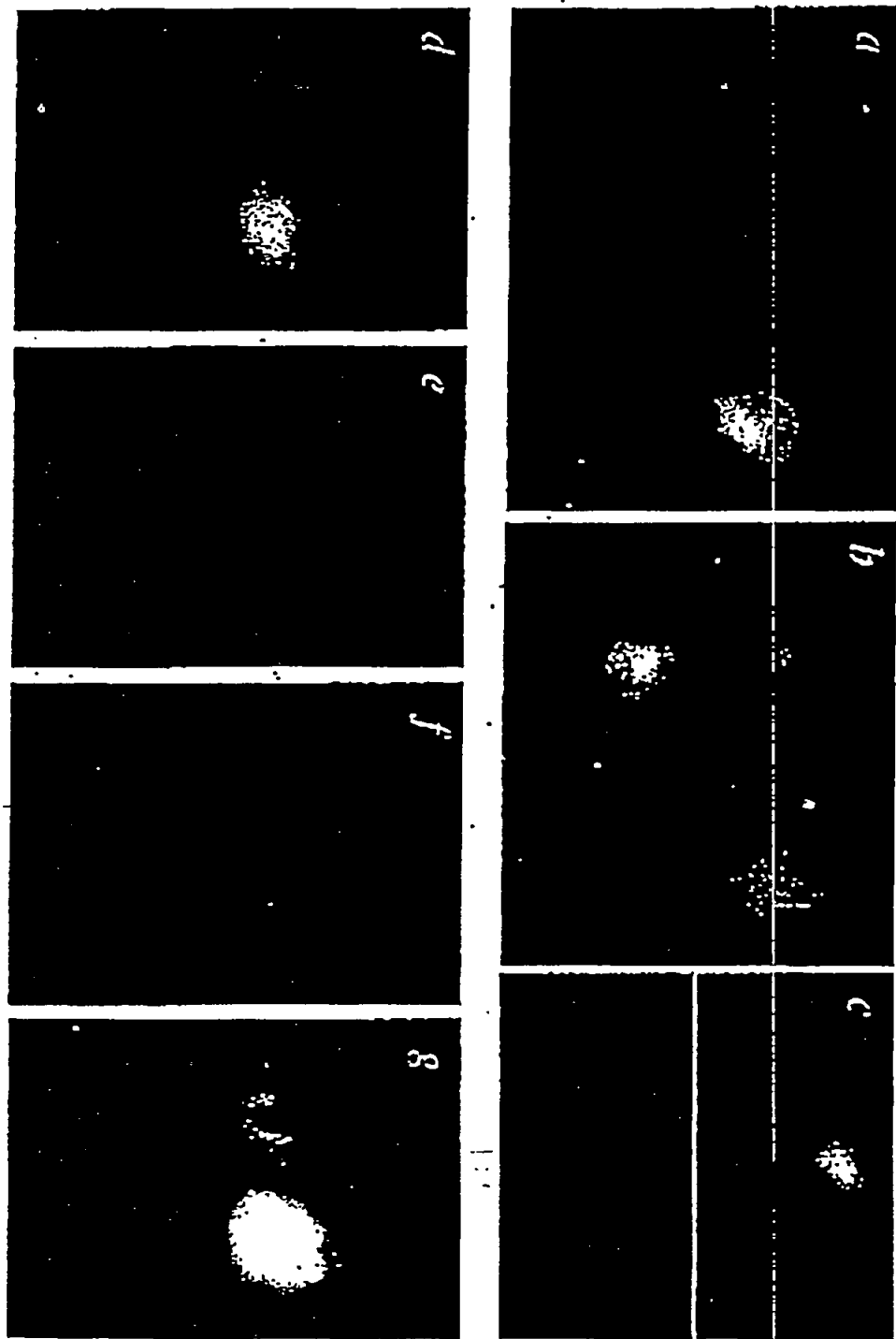


FIGURE 11

Genomic structure of the NAP1L2 gene

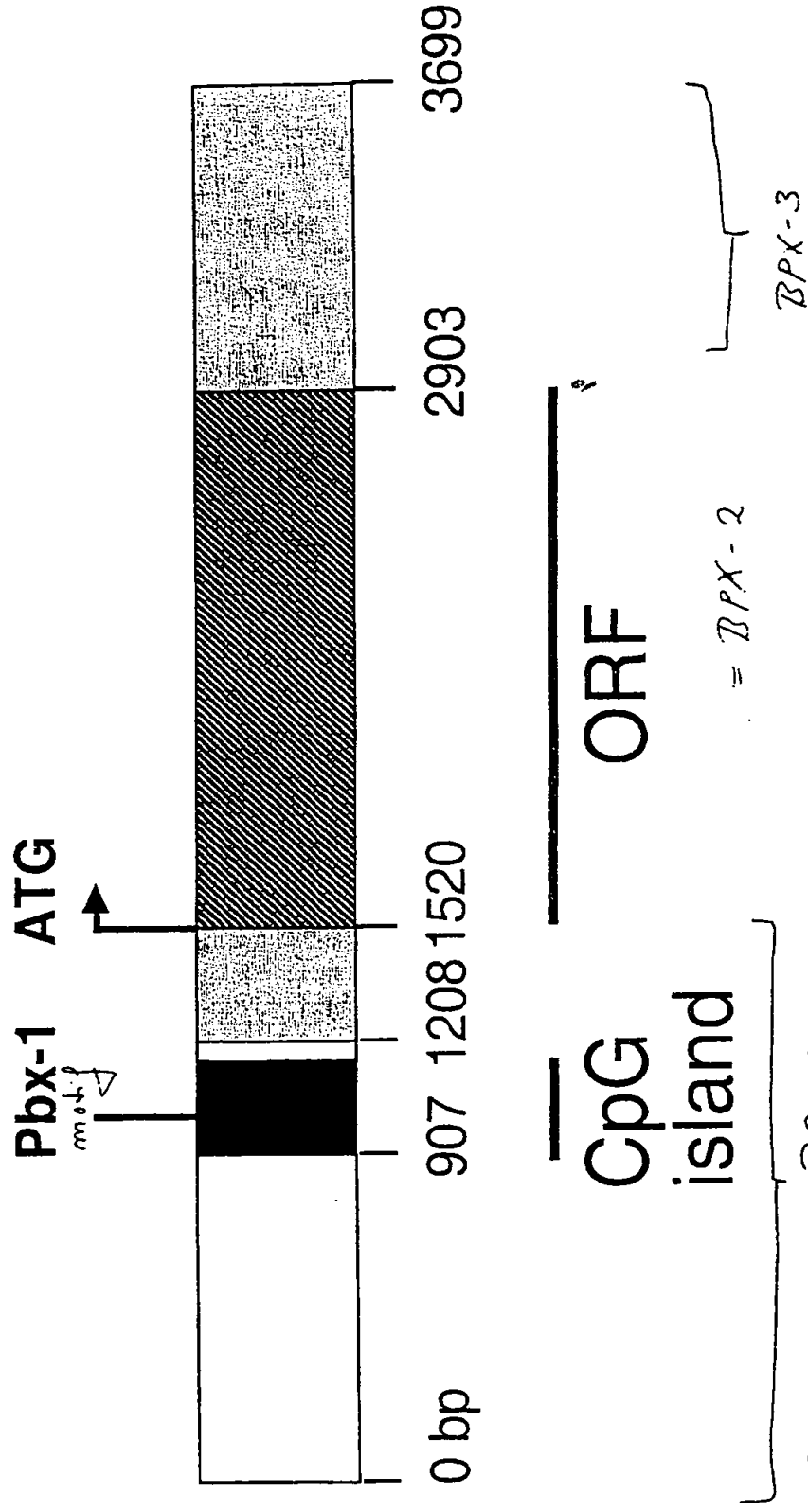


FIGURE 12